

WHAT IS CLAIMED IS:

1. A system for providing a printing capability for a transcription service, comprising:
 - 5 a printing means;
 - a transcription service for producing transcribed text; and
 - a real time transcription (RTT) print server;wherein said RTT print server receives transcribed text output from said transcription service and translates it into a format compatible with said printing means.
- 10
2. The system as recited in claim 1, wherein the printing means comprises a fax machine.
- 15
3. The system as recited in claim 1, wherein the printing means comprises a printer.
4. The system as recited in claim 1, wherein the printing means comprises a telex machine.
- 20
5. The system as recited in claim 1, wherein the transcription service comprises:
 - a stenograph writer; and

a processor for implementing a program which translates data input from the
stenograph writer into transcribed text.

6. The system as recited in claim 1, wherein the transcription service comprises:

5 a microphone; and

an Automatic Speech Recognition (ASR) program running on a processor
connected to said microphone.

7. The system as recited in claim 1, wherein the RTT print server comprises:

10 an Input/Output (I/O) communication module for providing an interface with
the transcription service and the printing means;
a Fax Connection Module for maintaining an active connection with the
printing means;

15 an Audio Fragment Management Module (FMM) for buffering transcribed
text into fragments and sending said fragments to be printed on the
printing means; and

a Control Module for controlling the real time transcription process, for
directing signals in the RTT print server, for storing user preferences, and
for storing information about at least one printing means.

20

8. The system as recited in claim 7, wherein the RTT print server further
comprises:

a Multimedia Integration Module (MIM) for integrating video, images, or graphics into transcribed text output on the printing means.

9. The system as recited in claim 7, wherein the real time transcription server
5 further comprises:

a Multimedia Synchronization Module (MSM) for synchronizing multimedia
signals with transcribed text output on the printing means.

10. The system as recited in claim 1, further comprising:

10 a network;
a connection between the printing means and the network;
a processor running the transcription service; and
a processor running the RTT print server.

15 11. The system as recited in claim 7, wherein the printing means is a fax machine,
and the Fax Communication Module maintains an active communication link by
sending delay frames to the fax machine.

12. The system as recited in claim 8, wherein the MIM comprises:

20 a Continuous-to-Discrete (C/D) Translator for receiving a continuously
streaming video signal, for creating still images based on C/D Translator
criteria, and for outputting said still images to an Image Buffer;

00000000000000000000000000000000

5

the Image Buffer for receiving still images, graphics, or diagrams, for storing said still images, graphics, or diagrams, and for outputting said still images, graphics, or diagrams to the printing means when an Interleaver directs it to do so; and

10

the Interleaver for interleaving still images, graphics, or diagrams between transcribed text on the printing means by directing the Image Buffer when to send still images, graphics, or diagrams to the printing means and by receiving transmission information from the FMM; wherein said C/D Translator criteria comprises at least one of a time interval between snapshots, a location to crop a smaller still image inside a video image, a resolution for the still image, and a printed size for the still image on output from the printing means.

15

13. The system as recited in claim 9, wherein the MSM comprises:

20

a Signal Separator for separating out an audio and a video signal from a multimedia input signal; and a Synchronizer for receiving said separated audio and video signals, for time-aligning, if necessary, said separated audio and video signals, and for synchronizing said separated audio and video signals with transcribed text output from the FMM.

14. The system as recited in claim 7, wherein the granularity of fragments buffered by the FMM is adjustable, and ranges from words to complete sentences; and further wherein the FMM keeps each fragment whole on a single page.

5 15. The system as recited in claim 1, wherein the transcription service is part of a multimedia presentation, further comprising:

at least one display means for displaying a video signal from the multimedia presentation; and

10 at least one speaker for playing an audio signal of the multimedia presentation;

wherein the at least one display means comprises at least one of a computer monitor, a television screen, a Personal Digital Assistant (PDA) display, and a display in an embedded device.

15 16. The system as recited in claim 1, further comprising:

a processor for running the transcription service and the RTT print server, said processor being in a Personal Digital Assistant (PDA); and a communication link between said PDA and the printing means.

20 17. The system as recited in claim 7, wherein the Control Module has a Graphical User Interface (GUI) module which provides a graphical interface on a display,

wherein the GUI allows a user to input control parameters and preferences concerning real-time transcription.

18. A system for providing a printing capability for a multimedia presentation,
5 comprising:

a printing means;

at least one display means for displaying a video signal from the multimedia
presentation;

10 at least one speaker for playing an audio signal of the multimedia
presentation; and

a real time multimedia (RTM) print server;

15 wherein said RTM print server receives data output from said multimedia
presentation and translates it into a format compatible with said printing
means.

19. The system as recited in claim 18, wherein the multimedia presentation is
played back from a computer-readable medium.

20. The system as recited in claim 18, wherein the multimedia presentation is
broadcast in real time.

21. The system as recited in claim 18, wherein the RTM print server comprises:

an Input/Output (I/O) communication module for providing an interface with the multimedia presentation and the printing means;

5 a Fax Connection Module for maintaining an active connection with the printing means;

a Multimedia Integration Module (MIM) for integrating video, images, or 10 graphics into output on the printing means;

a Multimedia Synchronization Module (MSM) for synchronizing multimedia signals with output on the printing means; and

15 a Control Module for controlling a printing process, for directing signals to either the MSM or MIM, for storing user preferences, and for storing information about at least one printing means.

22. The system as recited in claim 21, wherein a transcription service for producing transcribed text is provided with the multimedia presentation, the RTM print server further comprising:

15 an Audio Fragment Management Module (FMM) for buffering transcribed text into fragments and sending said fragments to be printed on the printing means;

20 wherein said MIM integrates transcribed text into output on the printing means; and

wherein said MSM synchronizes transcribed text which is output on the printing means with other signals.

23. The system as recited in claim 21, wherein the printing means is a fax machine, and the Fax Communication Module maintains an active communication link by sending delay frames to the fax machine.

5

24. The system as recited in claim 22, wherein the MIM comprises:

a Continuous-to-Discrete (C/D) Translator for receiving a continuously streaming video signal, for creating still images based on C/D Translator criteria, and for outputting said still images to an Image Buffer;

10 the Image Buffer for receiving still images, graphics, or diagrams, for storing said still images, graphics, or diagrams, and for outputting said still images, graphics, or diagrams to the printing means when an Interleaver directs it to do so; and

15 the Interleaver for interleaving still images, graphics, or diagrams between transcribed text on the printing means by directing the Image Buffer when to send still images, graphics, or diagrams to the printing means and by receiving transmission information from the FMM;

20 wherein said C/D Translator criteria comprises at least one of a time interval between snapshots, a location to crop a smaller still image inside a video image, a resolution for the still image, and a printed size for the still image on output from the printing means.

25. The system as recited in claim 22, wherein the MSM comprises:

a Signal Separator for separating out an audio and a video signal from a multimedia input signal; and

a Synchronizer for receiving said separated audio and video signals, for time-aligning, if necessary, said separated audio and video signals, and for synchronizing said separated audio and video signals with transcribed text output from the FMM.

26. The system as recited in claim 22, wherein the granularity of fragments buffered by the FMM is adjustable, and ranges from words to complete sentences; and further wherein the FMM keeps each fragment whole on a single page.

27. The system as recited in claim 18, wherein the at least one display means comprises at least one of a computer monitor, a television screen, a Personal Digital Assistant (PDA) display, and a display in an embedded device.

28. The system as recited in claim 18, wherein the output from said multimedia presentation, which is translated by the RTM print server into a format compatible with said printing means, comprises at least one of:

20 an image, graphic, or diagram accompanying the multimedia presentation;
a form to be filled out by a user in concert with the multimedia presentation;
a test to be taken by a user in concert with the multimedia presentation; and

material on which a user is to make notations in concert with the multimedia presentation.

29. The system as recited in claim 21, wherein the Control Module has a Graphical
5 User Interface (GUI) module which provides a graphical interface on a display,
wherein the GUI allows a user to input control parameters and preferences
concerning real-time transcription.

30. A method for providing a printing capability for a real time transcription
10 service, comprising the steps of:
receiving information concerning at least one printing means;
receiving a user's instructions and parameters concerning a real-time
transcription;
receiving transcribed text from a transcription service;
15 translating the transcribed text into a format compatible with the at least one
printing means; and
maintaining an active connection with the at least one printing means.

31. The method as recited in claim 30, wherein the translating step comprises the
20 sub-step of:
integrating video, images, or graphics into transcribed text output on the at
least one printing means.

32. The method as recited in claim 30, wherein the translating step comprises the
sub-step of:

synchronizing multimedia signals with transcribed text output on the at least
5 one printing means.

33. The method as recited in claim 30, wherein the maintaining an active
connection with the at least one printing means step comprises the sub-step of:
10 maintaining an active communication link by sending delay frames to the at
least one printing means.

34. The method as recited in claim 31, wherein the integrating sub-step comprises
the steps of:

receiving a continuously streaming video signal;
15 creating still images from the continuously streaming video signal based on
still image criteria;
outputting said still images to an Image Buffer;
storing still images, graphics, or diagrams in an Image Buffer;
interleaving stored still images, graphics, or diagrams between transcribed text
20 as output on the at least one printing means;
wherein said still image criteria comprises at least one of a time interval
between still images, a location to crop a smaller still image inside a video

image, a resolution for the still image, and a printed size for the still image in output from the printing means.

35. The method as recited in claim 32, wherein the synchronizing sub-step

5 comprises the steps of:

separating out an audio and a video signal from a multimedia input signal; time-aligning, if necessary, said separated audio and video signals; and synchronizing said separated audio and video signals with transcribed text output from the at least one printing means.

10

36. The method as recited in claim 30, wherein the translating step comprises the sub-step of:

buffering transcribed text into fragments; and sending said fragments to be printed on the at least one printing means.

15

37. The method as recited in claim 36, wherein the granularity of fragments in the buffering sub-step is adjustable, and ranges from words to complete sentences, the buffering sub-step comprising the sub-sub-step of:

keeping each fragment whole on a single page.

20

38. The method as recited in claim 30, further comprising the steps of:

displaying a video signal from a multimedia presentation on at least one
displaying means; and

playing an audio signal of the multimedia presentation on at least one speaker;

wherein the transcription is part of said multimedia presentation; and

wherein the at least one displaying means comprises at least one of a

computer monitor, a television screen, a Personal Digital Assistant (PDA)

display, and a display in an embedded device.

39. The method as recited in claim 30, further comprising the step of:

10 providing a Graphical User Interface (GUI) on a display, said GUI allowing a
user to input control parameters and preferences concerning real-time
transcription.

40. A method for providing a printing capability for a multimedia presentation,

15 comprising the steps of:

receiving information concerning at least one printing means;

receiving a user's instructions and parameters concerning a multimedia

presentation;

receiving output from the multimedia presentation;

20 translating the output into a format compatible with the at least one printing

means; and

maintaining an active connection with the at least one printing means.

41. The method as recited in claim 40, wherein the multimedia presentation is broadcast in real time.
- 5 42. The method as recited in claim 40, wherein the multimedia presentation is played back from a computer-readable medium.
- 10 43. The method as recited in claim 40, wherein the translating step comprises the sub-step of:
integrating video, images, or graphics into with transcribed text output from a transcription service on the at least one printing means.
- 15 44. The method as recited in claim 40, wherein the translating step comprising the sub-step of:
synchronizing multimedia signals with the multimedia output on the at least one printing means.
- 20 45. The method as recited in claim 40, wherein the maintaining an active connection with the at least one printing means step comprises the sub-step of:
maintaining an active communication link by sending delay frames to the at least one printing means.

46. The method as recited in claim 43, wherein the integrating sub-step comprises the steps of:

receiving a continuously streaming video signal;

creating still images from the continuously streaming video signal based on

5 still image criteria;

outputting said still images to an Image Buffer;

storing still images, graphics, or diagrams in an Image Buffer;

interleaving stored still images, graphics, or diagrams between transcribed text
as output on the at least one printing means;

10 wherein said still image criteria comprises at least one of a time interval

between still images, a location to crop a smaller still image inside a video
image, a resolution for the still image, and a printed size for the still image
in output from the printing means.

15 47. The method as recited in claim 44, wherein the synchronizing sub-step

comprises the steps of:

separating out an audio and a video signal from a multimedia input signal;

time-aligning, if necessary, said separated audio and video signals; and

synchronizing said separated audio and video signals with transcribed text in
output from the at least one printing means.

20

48. The method as recited in claim 43, wherein a transcription service is provided with the multimedia presentation, the method further comprising the steps of:

5 buffering transcribed text into fragments; and

sending said fragments to be printed on the at least one printing means;

wherein said integrating step integrates transcribed text into output on the

printing means.

49. The method as recited in claim 44, wherein a transcription service is provided with the multimedia presentation, the method further comprising the steps of:

10 buffering transcribed text into fragments; and

sending said fragments to be printed on the at least one printing means;

wherein said synchronizing step synchronizes transcribed text with output on

the printing means.

15 50. The method as recited in claim 40, further comprising the steps of:

displaying a video signal from a multimedia presentation on at least one

displaying means; and

playing an audio signal of the multimedia presentation on at least one speaker;

wherein the transcription is part of said multimedia presentation; and

20 wherein the at least one displaying means comprises at least one of a

computer monitor, a television screen, a Personal Digital Assistant (PDA)

display, and a display in an embedded device.

51. The method as recited in claim 40, wherein the output from said multimedia presentation, which is translated into a form that is compatible with said printing means, comprises at least one of:

5 an image, graphic, or diagram accompanying the multimedia presentation;

a form to be filled out by a user in concert with the multimedia presentation;

a test to be taken by a user in concert with the multimedia presentation; and

material on which a user is to make notations in concert with the multimedia presentation.

10

52. The method as recited in claim 40, further comprising the step of:

providing a Graphical User Interface (GUI) on a display, said GUI allowing a user to input control parameters and preferences concerning the multimedia presentation.

15

53. A computer system for providing a printing capability for a real time transcription service, the computer system comprising:

at least one computer-readable medium including:

code that receives information concerning at least one printing means;

code that receives a user's instructions and parameters concerning a real-time transcription;

code that receives transcribed text from a transcription service;

20

code that translates the transcribed text into a format compatible with the
at least one printing means; and
code that maintains an active connection with the at least one printing
means.

5

54. The computer system as recited in claim 53, wherein the code that translates the
transcribed text into a format compatible with the at least one printing means
comprises:

code that integrates video, images, or graphics into transcribed text output on
the at least one printing means;
code that buffers transcribed text into fragments; and
code that sends said fragments to be printed to the at least one printing means.

10

55. The computer system as recited in claim 53, wherein the code that translates the
transcribed text into a format compatible with the at least one printing means
comprises:

code that synchronizes multimedia signals with transcribed text output on the
at least one printing means;
code that buffers transcribed text into fragments; and
code that sends said fragments to be printed to the at least one printing means.

15

20

DRAFT6000200400

5

56. The computer system as recited in claim 53, wherein the code that maintains an active connection with the at least one printing means comprises:
code that maintains an active communication link by sending delay frames to the at least one printing means.

10

57. The computer system as recited in claim 54, wherein the code that integrates video, images, or graphics into transcribed text output on the at least one printing means comprises:

code that receives a continuously streaming video signal;

code that creates still images from the continuously streaming video signal

based on still image criteria;

code that outputs said still images to an Image Buffer;

code that stores still images, graphics, or diagrams in an Image Buffer;

code that interleaves stored still images, graphics, or diagrams between

15

transcribed text as output on the at least one printing means;

wherein said still image criteria comprises at least one of a time interval

between still images, a location to crop a smaller still image inside a video image, a resolution for the still image, and a printed size for the still image as output from the printing means.

20

58. The computer system as recited in claim 55, wherein the code that synchronizes multimedia signals with transcribed text output on the at least one printing means comprises:

5 code that separates out an audio and a video signal from a multimedia input signal;

code that time-aligns, if necessary, said separated audio and video signals; and code that synchronizes said separated audio and video signals with transcribed text output from the at least one printing means.

10 59. The computer system as recited in claim 53, wherein the code that translates the transcribed text into a format compatible with the at least one printing means comprises:

code that buffers transcribed text into fragments;

code that keeps each fragment whole on a single page; and

15 code that sends said fragments to be printed to the at least one printing means; wherein the granularity of fragments in the code that buffers is adjustable, and ranges from words to complete sentences.

60. The computer system as recited in claim 53, further comprising:

20 at least one computer-readable medium including:

code that displays a video signal from a multimedia presentation on at least one display means;

code that plays an audio signal of the multimedia presentation on at least
one speaker;

wherein the transcription is part of said multimedia presentation; and

wherein the at least one display means comprises at least one of a

5 computer monitor, a television screen, a Personal Digital Assistant
(PDA) display, and a display in an embedded device.

61. The computer system as recited in claim 53, wherein all the code is run on a
Personal Digital Assistant (PDA).

10 62. The computer system as recited in claim 53, wherein the at least one computer-
readable medium further includes:

code that provides a Graphical User Interface (GUI) on a display, said
GUI allowing a user to input control parameters and preferences
concerning real-time transcription.

15 63. A computer system for providing a printing capability for a multimedia
presentation, the computer system comprising:

at least one computer-readable medium including:

20 code that receives information concerning at least one printing means;

code that receives a user's instructions and parameters concerning a
multimedia presentation;

5

code that receives output from the multimedia presentation;
code that translates the output into a format compatible with the at least
one printing means; and
code that maintains an active connection with the at least one printing
means.

64. The computer system as recited in claim 63, wherein the multimedia
presentation is broadcast in real time.

10

65. The computer system as recited in claim 63, wherein the multimedia
presentation is played back from at least one computer-readable medium.

15

66. The computer system as recited in claim 63, wherein the code that translates
comprises:
code that integrates video, images, or graphics into the multimedia output on
the at least one printing means.

20

67. The computer system as recited in claim 63, wherein the code that translates
comprises:
code that synchronizes multimedia signals with the multimedia output on the
at least one printing means.

68. The computer system as recited in claim 63, wherein the code that maintains an active connection with the at least one printing means step comprises:
code that maintains an active communication link by sending delay frames to the at least one printing means.

5

69. The computer system as recited in claim 66, wherein the code that integrates comprises:

code that receives a continuously streaming video signal;
code that creates still images from the continuously streaming video signal
10 based on still image criteria;
code that outputs said still images to an Image Buffer;
code that stores still images, graphics, or diagrams in an Image Buffer;
code that interleaves stored still images, graphics, or diagrams between
transcribed text as output on the at least one printing means;
15 wherein said still image criteria comprises at least one of a time interval
between still images, a location to crop a smaller still image inside a video
image, a resolution for the still image, and a printed size for the still image
in output from the printing means.

20 70. The computer system as recited in claim 67, wherein the code that synchronizes comprises:

code that separates out an audio and a video signal from a multimedia input
signal;

code that time-aligns, if necessary, said separated audio and video signals; and
code that synchronizes said separated audio and video signals with transcribed
text in output from the at least one printing means.

5

71. The computer system as recited in claim 63, wherein a transcription service is
provided with the multimedia presentation, further comprising:

at least one computer-readable medium including:

10 code that buffers transcribed text into fragments;
code that sends said fragments to be printed on the at least one printing
means; and
code that receives a user's instructions and parameters concerning a
multimedia presentation;

15 wherein said integrating code integrates transcribed text into output on
the printing means.

72. The computer system as recited in claim 63, wherein a transcription service is
provided with the multimedia presentation, further comprising:

20 at least one computer-readable medium including:
code that buffers transcribed text into fragments;

code that sends said fragments to be printed on the at least one printing means; and

code that receives a user's instructions and parameters concerning a multimedia presentation;

5 wherein said synchronizing code synchronizes transcribed text with output on the printing means.

73. The computer system as recited in claim 63, further comprising:

10 at least one computer-readable medium including:

code that displays a video signal from a multimedia presentation on at least one display means; and

code that plays an audio signal of the multimedia presentation on at least one speaker;

15 wherein the at least one display means comprises at least one of a computer monitor, a television screen, a Personal Digital Assistant (PDA) display, and a display in an embedded device.

74. The computer system as recited in claim 63, wherein the output from said

20 multimedia presentation, which is translated into a form compatible with said printing means, comprises at least one of:

an image, graphic, or diagram accompanying the multimedia presentation;

a form to be filled out by a user in concert with the multimedia presentation; a test to be taken by a user in concert with the multimedia presentation; and material on which a user is to make notations in concert with the multimedia presentation.

5

75. The computer system as recited in claim 63, further comprising:

at least one computer-readable medium including:

code that provides a Graphical User Interface (GUI) on a display, said

GUI allowing a user to input control parameters and preferences

concerning the multimedia presentation.

10

76. A system for providing a presentation capability for a transcription service,

comprising:

a processor running fax emulation software;

a display means operatively connected to said processor;

a transcription service for producing transcribed text; and

a real time transcription (RTT) presentation server

wherein said RTT presentation server receives transcribed text output from

said transcription service and translates it into a format compatible with

20

77. A system for providing a presentation capability for a multimedia presentation,
comprising:

a processor running fax software;

a display means operatively to said processor;

5 at least one display means for displaying a video signal from the multimedia
presentation;

at least one speaker for playing an audio signal of the multimedia
presentation; and

a real time multimedia (RTM) presentation server;

10 wherein said RTM presentation server receives data output from said
multimedia presentation and translates it into a format compatible with
said fax emulation software.

78. A method for providing a presentation capability for a real time transcription
15 service, comprising the steps of:

running fax emulation software on a processor;

receiving information concerning a display means, said display means
operatively connected to said processor;

receiving a user's instructions and parameters concerning a real-time
transcription;

receiving transcribed text from a transcription service;

translating the transcribed text into a format compatible with the fax
emulation software; and
maintaining an active connection with the fax emulation software.

5 79. A method for providing a presentation capability for a multimedia presentation,
comprising the steps of:

running fax emulation software on a processor;
receiving information concerning a display means, said display means
operatively connected to said processor;
10 receiving a user's instructions and parameters concerning a multimedia
presentation;
receiving output from the multimedia presentation;
translating the output into a format compatible with the fax emulation
software; and
15 maintaining an active connection with the fax emulation software.

80. A computer system for providing a presentation capability for a real time
transcription service, the computer system comprising:

at least one computer-readable medium including:
20 code that emulates a fax machine, said emulation including code that
displays received fax data on a display means;
code that receives information concerning said display means;

code that receives a user's instructions and parameters concerning a real-time transcription;

code that receives transcribed text from a transcription service;

code that translates the transcribed text into a format compatible with the

5 code that emulates a fax machine; and

code that maintains an active connection with the code that emulates a fax machine.

81. A computer system for providing a presentation capability for a multimedia presentation, the computer system comprising:

10 at least one computer-readable medium including:

code that emulates a fax machine, said emulation including code that displays received fax data on a display means;

code that receives information concerning said display means;

15 code that receives a user's instructions and parameters concerning a multimedia presentation;

code that receives output from the multimedia presentation;

code that translates the output into a format compatible with the code that emulates a fax machine; and

20 code that maintains an active connection with the code that emulates a fax machine.

82. The system as recited in claim 9, further comprising:

at least one other printing means;

wherein the MSM synchronizes transcribed text to be output on the printing

means and the at least one other printing means.

5

83. The system as recited in claim 21, further comprising:

at least one other printing means;

wherein the MSM synchronizes transcribed text to be output on the printing

means and the at least one other printing means.

10

ପାତା ୧୫୩